

Clinical Effectiveness of Bulk-fill Resin Composite: A Review

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Abstract : The objective of this study was to review in-vivo and in-vitro studies to compare the effectiveness of bulk-fill and conventional resin composites with regard to marginal adaptation, polymerization shrinkage, and other mechanical properties. PubMed and Scopus databases was investigated for in-vitro studies and randomized clinical trials comparing incidence of fractures, color stability, marginal adaptation, pain and discomfort, recurrent caries, occlusion, pulpal reaction, and proper proximal contacts of restorations made with conventional and bulk resins. The failure rate of conventional and flowable bulk-fill resin composites was not significantly different to sculptable bulk-fill resin composites. The objective of this study was to review in-vivo and in-vitro studies to compare the effectiveness of bulk-fill and conventional resin composites with regard to marginal adaptation, polymerization shrinkage, and other mechanical properties. PubMed and Scopus databases was investigated for in-vitro studies and randomized clinical trials comparing one of the pearlier mentioned properties between bulk-fill and control composites. Despite differences in physical and in-vitro properties, failure rate of conventional and flowable bulk-fill resin composites was not significantly different to sculptable bulk-fill resin composites.

Keywords : polymerization shrinkage, color stability, marginal adaptation, recurrent caries, occlusion, pulpal reaction

Conference Title : ICACDPT 2022 : International Conference on Advanced Cosmetic Dentistry Procedure and Treatments

Conference Location : Amsterdam, Netherlands

Conference Dates : May 16-17, 2022